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From: Lee, Alana
Sent: Thur 3/27/2014 3:06:33 PM
Subject: FYI: MassDEP Position on IRIS TCE Assessment and Prompt Response Action
MAIL_RECEIVED: Thur 3/27/2014 3:06:37 PM

Sent by Rich K to EPA VI Forum

From: Kapuscinski, Rich
Sent: Thursday, March 27, 2014 7:52 AM
Subject: MassDEP Position on IRIS TCE Assessment and Prompt Response Action

The Massachusetts Department of Environmental Protection (Mass DEP) announced today additional requirements and guidance for its cleanup programs

<http://www.mass.gov/eea/docs/dep/cleanup/laws/tcestat.pdf>

You may recall that in January 2013, Mass DEP adopted the IRIS RfC for TCE for its cleanup programs. At the time, MassDEP noted that "One of the health endpoints is increased fetal cardiac malformations [which] by definition, is the result of a short-term exposure (during gestation)." On that basis, MassDEP identified that indoor air conditions exhibiting TCE concentrations greater than 2 micrograms per cubic meter (ug/m³) in residences would be

considered an Imminent Hazard for pregnant women and women of childbearing age, which requires prompt notification to Mass DEP. At the time, they stated “the exposure duration of concern for developmental health effects is short – *measured at most in days*.“

Today, MassDEP announced a refinement of those requirements, which are summarized below:

- They retained their adoption of the IRIS chronic RfC for TCE, re-affirming confidence in the developmental endpoint and the RfC.

- The criterion for an Imminent Hazard for residences was re-set to an indoor air concentration greater than 6 ug/m³, representing an adjustment of the RfC by a factor of three (3) to address short-term exposure concerns and assuming 24 hours of daily exposure seven days per week. (I have sought further explanation from the MassDEP science and research division about their choice of an adjustment factor of three.)

- The criterion for an Imminent Hazard in non-residential buildings is an indoor air concentration of TCE greater than 24 ug/m³, which is rationalized by multiplying the residential criterion by a time-weighting factor that assumed 8 hours of daily exposure five days per week.

- Imminent hazard conditions warrant notification to Mass DEP within 2 hours.

- In addition, three sequential sets of prompt response action are identified, as follows:
 - o Initial response actions that should be implemented *immediately* include: ensure appropriate Fact Sheets are provided to affected individuals; vent the basement (if a basement exists in the building) or lowest level of the building by opening windows; seal cracks/utility annular spaces in bottom floor of building and subsurface walls; and enclose and passively vent sumps.

 - o Response actions that should be implemented *as soon as possible*, but which may require several days to two weeks to arrange and implement include: adjust the HVAC system (if applicable) to provide outside make-up air for heating and cooling system combustion/drafting and over-pressurize building's interior; install carbon filtration on HVAC system; and bring

portable air-purifying units (APUs) to the affected building.

o Response actions that should be implemented *as soon as possible*, but which may require several weeks to two months to design, construct and test include: install a sub-slab depressurization system; install air-to-air heat exchanger to over-pressurize the basement; and install a soil vapor extraction system (for the soil underlying the building).

•□□□□□□□ Where TCE concentrations are found to be “well above” the IH criteria listed above – i.e., “where they exceed 20 µg/m³ in a home or 60 µg/m³ in a workplace - DEP should be consulted about available short-term options for reducing or eliminating exposures to pregnant women (or women who may be pregnant) while response actions are developed and implemented.”

Please note that Massachusetts has privatized many cleanup decisions for its programs. Hence, references to notifying DEP and consulting DEP apply to Licensed Site Professionals, who make decisions and take response actions that in other states would be performed by the state agency or its contractors.

I hope you will find this information interesting and helpful to your own thinking about imminent hazard situations addressed by EPA in buildings subject to vapor intrusion.

Rich Kapuscinski